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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/315,399	05/20/1999	BRETT ALLEN EDDY	A61-16721	6478

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EXAMINER

TRAN, THIEN D

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 06/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/315,399

Applicant(s)

BRETT ALLEN ET AL

Examiner

Thien D Tran

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 May 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-24 are rejected under 35 U.S.C. 102(e) as being participated by Diaz et al (U.S Patent No 5,809,021).

Regarding claim 1, Diaz discloses a network architecture supporting periodic and aperiodic transmission of data comprising;

a network databus (13, 21);

a plurality of interface modules, bus control modules, bridge modules (Network Interface Controller modules) capable of communicating over said network databus, at least one of said plurality of interface modules such as bus control module or bridge module acting as a master timing module configured to assign bandwidth on said

network databus for transmission of data, said master timing module including a means of determining what bandwidth is assigned to requests for aperiodic data transmissions based on priority, length and sequence of frames. See col.5 lines 5-40, figure 1.

Regarding claim 9, Diaz discloses a network for transmitting data between network interface controllers in a communications system, said network comprising:

- a first network bus interface controller 11;

- a second network bus interface controller 19 coupled to said first network interface controller, wherein one of said first and second network interface controller comprises a master timing network interface controller (col.5 lines 5-40);

- a plurality of modules coupled to either of said first and second network interface controllers, wherein said modules are capable of requesting transmission of data;

- and a means for prioritizing an order of transmission of said data. See col.17 lines 30-60.

Regarding claim 16, Diaz discloses a network for transmitting data between modules in a communications system, wherein said data comprises periodic data and aperiodic data, said network comprising:

- a master network interface controller , wherein said master interface controller is capable of prioritizing transmission of said aperiodic data requested by said modules;

- a first backplane chassis 34 coupled to said master network interface controller;

- at least one first module coupled to said first backplane chassis, wherein data is transmittable from one of said first modules along said first backplane chassis to other first modules and said master network interface controller (figure 2, col.11 lines 15-30);

a network databus coupled to said master network interface controller;  
at least one network interface controller coupled to said network databus;  
a second backplane chassis 36 coupled to said network interface controller;  
at least one second module coupled to said second backplane chassis, wherein data is transmittable from one of said second modules along said second backplane chassis to other second modules and said network interface controller (col.11 lines 15-35); and  
wherein said first and second modules are capable of requesting transmission of said aperiodic data over said network databus, wherein said requests of transmission are prioritizable by said master network interface controller. See figure 1, col.7 lines 20-40, col.17 lines 30-45.

Regarding claim 22, Diaz discloses a method of transmitting both periodic and aperiodic data in a network system comprising a network databus with a plurality of bus control modules, bridge modules (Network Interface Controller modules) arranged to communicate said data over said network databus, at least some of said data arriving from a plurality of devices coupled to said interface modules through a signal backplane chassis, wherein at least one of said a interface bus control module or a bridge module (network interface module) acts as a master timing interface module responsible for allocating bandwidth on said network databus, said method comprising the steps of:

transmitting all periodic data on said network databus;  
transmitting requests to said master timing bus control module (network interface module) for transmission of aperiodic data;

processing said requests by assigning bandwidth according to priority and availability of bandwidth on said network databus after transmission of said periodic data;

transmitting a status message to said plurality of interface modules, said status message indicating what requests are assigned bandwidth on said network databus for transmission of aperiodic data and order of transmission;

and transmitting said aperiodic data over said network databus according to said order of transmission. See col.8 lines 30-55.

Regarding claims 2, 15, 19, 22, 23, Diaz discloses that control timing (master timing NIC) is configured to guarantee a certain amount of bandwidth for the transmission of aperiodic data. See col.7 lines 1-7

Regarding claim 3, Diaz discloses that the network bus comprises a dual bus structure. See figure 1.

Regarding claim 4, Diaz discloses that the network architecture comprising a plurality of network devices through ports of the interface modules communicably coupled to said plurality of interface modules. See col.11 lines 30-35, col.12 lines 40-60.

Regarding claims 5, 10, Diaz discloses that the bus control time (master timing NIC) modules comprises:

a bus control module (master NIC) configured to receive requests for aperiodic data transmissions from one or more of said plurality of network devices; and

a priority table for storing a predetermined set of priorities assigned to requests for aperiodic data, said data attributes (table) accessible by said bus control module (master NIC);

and a transceiver means coupled to said interfaced module, bus control module, bridge module (master NIC) and providing a signal pathway between said bus control module (master NIC) and said network databus. See col.9 lines 5-20, col.17 lines 30-50, col.20 lines 30-45, and figure 7.

Regarding claim 6, Diaz discloses that the transceiver means comprises:

a receive buffer for reading data from said network databus;

and a transmit buffer for writing data on said network databus. See figure 7.

Regarding claims 7, 24, Diaz discloses that each of said plurality of NIC modules comprises:

a NIC configured to receive requests for aperiodic data transmissions from one or more of said plurality of network devices;

and a congestion buffer (table) associated with said interface module for storing a predetermined set of priorities assigned to requests for aperiodic data, said table accessible by said master module;

and a transceiver means coupled to said master module and providing a signal pathway between said master module and said network databus. See figure 7, col.20 lines 30-55.

Regarding claims 8, 11, 18, Diaz discloses that bus control module or bridge module (master NIC) is configured to transmit the contents of said priority attribute to

each of said attributes associated with each of said plurality of interface modules. See col.17 lines 30-50.

Regarding claims 12, 20, Diaz discloses that the network data is transmittable from one of said modules to another of said modules through said communication system. See figures 1-3.

Regarding claim 13, Diaz discloses that the network data is aperiodic. See col.5 lines 30-35

Regarding claims 14, 17, Diaz discloses that the network aperiodic data is isochronous or asynchronous. See col.5 lines 30-35.

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Birkedahl et al (US Patent No. 6,133,846) discloses low cost redundant communications sytem.

-Beutler (US Patent No. 6,003,146) discloses method and apparatus for applying CRC to ARINC 429 periodic data.

-Toillon et al (US Patent No. 5,954,810) discloses device for communication between a plurality of functional modules installed in a local unit and an ethernet type external bus.



Art Unit: 2665

4. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Thien Tran whose telephone number is (703) 306-5445. The examiner can normally be reached on Monday-Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (703) 308-6602. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Thien Tran

A handwritten signature in cursive script, appearing to read 'Alpus H. Hsu'.

ALPUS H. HSU  
PRIMARY EXAMINER